

ABSTRACT

A non-contact optically based apparatus for measuring the motion of a
5 diffusely reflecting surface. The motion measurements and signals derived therefrom
are used to provide input control signals to a computer or other electronic control
systems requiring a human tactile or other control. The apparatus includes a unique
optical sensor which senses both the magnitude and direction of the motion of a
surface, relative to the apparatus, by measuring the motion of the pattern generated by
10 illuminating the diffusely reflecting surface with a light source.